Please amend the claims as follows:

1. (Amended) A dispersion compensation module compensating for dispersion in an optical communications network transmitting signals on multiple wavelengths, the dispersion compensation module comprising:

a first dispersion compensating fiber providing dispersion compensation and dispersion slope compensation, said first dispersion compensating fiber having a first non-zero dispersion coefficient and a first non-zero dispersion slope coefficient;

a second dispersion compensating fiber in optical communication with said first dispersion compensating fiber, said second dispersion compensating fiber having a second non-zero dispersion coefficient and a second non-zero dispersion slope coefficient, a length of said first dispersion compensating fiber and a length said second dispersion compensating fiber are selected to compensate dispersion and to compensate dispersion slope simultaneously for the multiple wavelengths in a transmission path in optical communication with said first dispersion compensating fiber and said second dispersion compensating fiber.

2. (Amended) The dispersion compensation module of claim 1 wherein the first non-zero dispersion coefficient is different from the second non-zero dispersion coefficient.

3. (Amended) The dispersion compensation module of claim 1 wherein the first non-zero dispersion slope coefficient is different from the second non-zero dispersion slope coefficient.

4. (Amended) The dispersion compensation module of claim 1 wherein the transmission path is an inter-network element section of transmission fiber optically coupling the dispersion compensation module and a node of the optical communications network.

5. (Amended) The dispersion compensation module of claim 4 wherein the transmission path includes a component in optical communication with the inter-network element section of transmission fiber.

7. (Amended) The dispersion compensation module of claim 1 wherein the transmission path extends between a first terminal and a second terminal to define a terminal-to-terminal path and the dispersion compensation module is optically coupled to the second terminal.

8. (Amended) The dispersion compensation module of claim 7 wherein the transmission path includes a component in optical communication with the terminal-to-terminal path.

10. (Amended) The dispersion compensation module of claim 1 wherein the length of first dispersion compensating fiber and the length of second dispersion compensating fiber are selected based on a mathematical solution compensating dispersion in the transmission path and compensating dispersion slope in the transmission path.

11. (Amended) The dispersion compensation module of claim 10 wherein the mathematical solution is represented as:
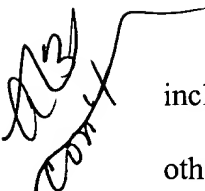
$$D_{trans} * L_{trans} + D_{dcf1} * L_{dcf1} + D_{dcf2} * L_{dcf2} = 0$$

$$L_{trans} * S_{trans} + L_{dcf1} * S_{dcf1} + L_{dcf2} * S_{dcf2} = 0$$

where D is dispersion coefficient, L is length and S is dispersion slope coefficient.

12. (Amended) The dispersion compensation module of claim 11 wherein the length of first dispersion compensating fiber and the length of second dispersion compensating fiber are selected based on discrete lengths approximating the mathematical solution.

13. (Amended) The dispersion compensation module of claim 10 wherein the mathematical solution compensates for Nth order dispersion effects in the transmission path, where N is greater than 2,

said dispersion compensation module further comprising N dispersion compensating fibers, including said first and second dispersion compensating fibers, in optical communication with each other, each of said N dispersion compensating fiber having a non-zero dispersion coefficient and a non-zero dispersion slope coefficient, wherein respective lengths of said N dispersion compensating fibers are selected to compensate 1st through N^{th} order dispersion effects for the multiple wavelengths in the transmission path.

14. (Amended) The dispersion compensation module of claim 10 wherein the mathematical solution includes a value representing dispersion introduced by components in the transmission path.

15. (Amended) The dispersion compensation module of claim 10 wherein the mathematical solution includes a value representing dispersion slope introduced by components in the transmission path.

16. (Amended) A method for compensating dispersion in an optical communications network transmitting signals on multiple wavelengths using a dispersion compensation module, the method comprising:

providing a first dispersion compensating fiber having a first non-zero dispersion compensation and first non-zero dispersion slope compensation in the dispersion compensation module;

providing a second dispersion compensating fiber having a second non-zero dispersion compensation and second non-zero dispersion slope compensation in the dispersion compensation module; and

optically coupling the dispersion compensation module to a transmission path of the optical communications network;

said first non-zero dispersion compensation, first non-zero dispersion slope compensation, second non-zero dispersion compensation and second non-zero dispersion slope compensation selected to compensate dispersion and compensate dispersion slope simultaneously for the multiple wavelengths in a transmission path.

19. (Amended) The method of claim 16 wherein the transmission path is an inter-network element section of transmission fiber optically coupling the dispersion compensation module and a node of the optical communications network.

21. (Amended) The method of claim 16 wherein the transmission path extends between a first terminal and a second terminal to define a terminal-to-terminal path, said optically coupling step optically coupling the dispersion compensation module to the second terminal.

26. (Amended) The method of claim 23 wherein the mathematical solution compensates for Nth order dispersion effects in the transmission path, where N is greater than 2, said providing steps providing N dispersion compensating fibers having non-zero dispersion compensation and non-zero dispersion slope compensation in the dispersion compensation module, wherein the dispersion compensating fibers are selected to compensate 1st through N^{th} order dispersion effects for the multiple wavelengths in the transmission path.

REMARKS

Claims 1-5, 7, 8, and 10-14 are pending in this application. Claims 6 and 9 have been canceled.

Art Rejections

Claims 1-5, 7, 8, 10, 13-15, 17-23, and 26-28 are rejected under 35 U.S.C. § 102(e) as being anticipated by Way (USP 6,366,728). Claims 6, 9, 11, 12, 24, and 25 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Way. These rejections, insofar as they pertain to the presently pending claims, are respectfully traversed.

Way teaches a composite transmission line in which different types of optical fiber are spliced together to form the main artery or transmission line of an optical communications system. Indeed, as the title to Way's patent and his claims suggest, Way has disclosed and patented a distributed solution for dispersion and dispersion slope compensation.

In contrast, the present invention is directed to a discrete solution for dispersion and dispersion slope compensation, such discrete solution being claimed as a dispersion